

JERRY WAYNE GUSPIE
MOVEMENT AND ARCHITECTURAL
DESIGN

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MOVEMENT AND ARCHITECTURAL DESIGN

by

Jerry Wayne Guspie

A thesis submitted in partial fulfillment
of the requirements for the degree

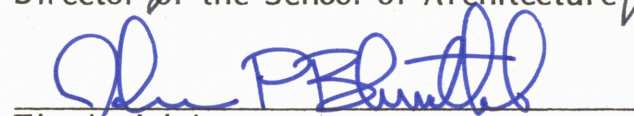
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Bachelor of Architecture

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PREAMBLE

Understanding of the built environment depends not only on what people perceive, but more importantly, on how or in what sequence they perceive it. The basic unit of perception is not the static image such as is offered by a photograph, but it is a pattern of images defined by the viewer's movement through space.

In general terms, my thesis is concerned with the understanding and use of this movement as an orientation and linking device in the built environment.

THESIS STATEMENT

Movement structures the spatial experiences of people within complex environments, determining their orientation and their perception of continuity between a building and its context.

THESIS PROJECT

A YMCA facility for downtown Edmonton, Alberta, Canada

MOVEMENT and ARCHITECTURAL DESIGN

In formulating an approach for the design of buildings in urban contexts, many of the factors which are often used as design guidelines in rural or low density situations are completely overpowered or dominated by the existing conditions of most cities. Natural contours, for example, have long since disappeared; vegetation is sparse (if it exists at all); views and sunlight are restricted by other buildings, and access is usually limited to only one or two sides that front on the street. Buildings for these contexts tend to be based largely on their own programmatic needs, and as they become larger, and their programs more and more indeterminate, the resultant forms are often indistinct and neutral, not only in terms of the building itself, but also in terms of its response to the surrounding context.

The failure of these buildings to contribute to the quality of the urban environment beyond the satisfaction of their functional requirements has resulted in the loss of many of the potential transactions between people themselves, and between people and their physical surroundings. In order to counteract this tendency, buildings for urban contexts should be designed with greater concern for the actual perceptions of the people who will be experiencing them.

First, if people, are to relate to their environment, I believe that they must be able to formulate some understanding of its basic spatial relationships and organization. Consequently, orientation, defined in its most basic sense as the ability to determine one's bearing and position is of prime importance, both in the design of individual buildings, and in determining the overall pattern of the city.

Second, urban buildings are not perceived as isolated elements and therefore should not be designed to be indifferent expressions of independence. "If generated solely by its own autonomous system, the built form can become alienated from the context and present to the immediate environment only the manifestation of an internal logic."¹ To insure the continuity in a user's perceptions of a building and its surroundings, urban buildings should be designed on the basis of the interaction between their specific program requirements and their environmental context.

A strategy for realizing these goals -- orientation and continuity -- can be derived from an understanding of movement as an ordering device. The forms and spaces that make up the physical environment are essentially static; it is the sequential path of the observer that determines his perceptions. The environment is thus perceived by the observer as a continual flow of images controlled by his progression through space. I believe that the organization of these spatial experiences is even more important than the actual spaces in determining a user's understanding of complex environments.

By determining the type, rate, and sequence of people's perceptions the movement systems of a city, or of a building, structure the pattern of an observer's spatial experiences. In addition to controlling these spatial experiences however, movement systems can also be used to organize spaces themselves. In the design of

¹. G. Kallmann, and N. McKinnell, "Movement Systems as Generators of Built Form," Architectural Record, November 1975. pp. 108.

individual buildings, the movement system can become analogous to a city street. It becomes the armature around which other, more flexible spaces can be organized. Because of this, a sense of permanence may become associated with the movement system of a building, attracting to it major elements of the structural system. Not only does this help to define the movement system itself, but also serves to emphasize its role as an ordering device, and to free other spaces of inconvenient structural intrusions.

This idea is clearly illustrated in the Physical Education Facilities at the Phillips Exeter Academy in New Hampshire. In this case, the structural system of the building completely coincides with the movement system, and helps to reinforce its role as the major organizational element of the building. The spaces surrounding the circulation spine remain free of structural intrusions and are therefore more flexible in their arrangement and use.

The Holyoke Centre at Harvard by José Sert and Associates, also provides a good example of a movement system used as an ordering device. The building's spaces and its structural system are organized around a ground level pedestrian mall. In addition to its use as an organizational theme, however, the movement system also provides a means of establishing continuity between the building and its surrounding environment.

MOVEMENT AS AN ORIENTATION DEVICE:

A movement system which forms the organizational core of a complex environment can become an important point of reference for users in establishing their

orientation. If a movement system establishes a strong spatial identity of its own, other spaces may then be perceived and remembered in terms of their relationship to that movement system. Also, spaces or elements in space may be related together by means of their position along the movement system, thus contributing to the user's sense of orientation by establishing a processional order in the environment.

Further, the movement system itself can be considered as a series of distinguishable places, or as the linkage between places. These places (or elements such as elevators, stairs or ramps), serve as "points of fix" that help observers to chart their progression through space. They become reference points that are very important in structuring a user's memory of spatial sequences.

The movement of people through space can also raise their conscious involvement with their environment either by stimulating kinesthetic senses or by forcing them to make decisions with respect to their desired position and path. The resulting increase in conscious involvement significantly increases the opportunities for orientation and understanding within the environment.

Frank Lloyd Wright's Guggenheim Museum, for example, relies on the kinesthetic effect generated by its central spiral ramp in order to heighten visitors' awareness of their progression through the gallery. The strong spatial identity of the ramp also serves to make it a continuous point of reference in the perception of the various galleries and exhibit spaces which it links together.

In many of his works, Corbusier has also emphasized or exaggerated elements of the circulation system in order to heighten peoples' perception of their movement through space. He referred to this technique as "punctuating the

architectural promenade."² At the Villa Savoye, for example, he has positioned a ramp and a winding staircase immediately adjacent to each other. One or the other element alone would have been functionally sufficient, yet the result of their adjacency is an opportunity for users to compare the kinesthetic experiences that are generated as they move on one element with the imagined or real kinesthetic experiences that would be generated by the other element. This raised conscious involvement with the building helps to increase the user's understanding of its spatial relationships and to enhance the opportunities for orientation.

A similar use of movement systems to stimulate users' awareness of spatial relations can be seen in Hans Scharoun's Berlin Opera House. The entrance lobby contains a series of open stairways that cascade down from the upper mezzanine levels, emphasizing and displaying the movements of people through the building. By clearly defining a sequential path, these stairways reveal the building's organization as a series of continually unfolding spaces.

The Santa Barbara Faculty Club by Moore -- Turnbull relies on much the same technique to emphasize its spatial relationships. In this case, however, the visually complex mixture of ramps, stairs and bridges may initially generate some confusion among users, forcing them to consciously evaluate their position relative to the overall building. As a result of this "forced evaluation", users can potentially attain a better understanding of the spatial organization and a stronger sense of orientation in all parts of the building.

2. Maurice Besset, Le Corbusier. (New York: Rizzoli International Publications Inc. 1976) pp. 130.

MOVEMENT AS A LINKING DEVICE

Another aspect of movement that I wish to explore, is its ability to establish a viewer's perception of continuity between a specific building and its context. In terms of my thesis, I define continuity as the perception of a relationship or a tie between a building's interior spaces and its exterior surroundings.

The movement systems of a city, the streets and sidewalks etc., form the organizational infrastructure of the urban environment. How individual buildings attach themselves to this network is very important to an observer's perception of continuity between them. In this regard, the entrance and arrival procession holds the strongest opportunities for establishing the link between a specific building and its context. The Crown Zellerbach Building in San Francisco, for example, emphasizes its link with the urban fabric (at least at grade level) by means of a bridge from the sidewalk, across a sunken plaza area, to the main entrance. By distinguishing the building from its surrounding context, the dropped plaza area helps create a stronger sense of identity for the building, establishing it as a definite place within the urban fabric. In addition, the processional sequence defined by this bridged entrance path heightens both viewer's and user's perceptions of the transition from the street into the building, and helps to maintain a sense of continuity between the building and its context.

Beyond the entrance, the sequential movement of people through a building can further provide a means of relating the interior spaces of a building to the site conditions that surround it. Modification of the building's schematic circulation patterns in response to contextural forces, provides a means of relating the general

program requirements to the specific conditions of the site. Generally a movement system which is itself responsive to the surrounding context provides an opportunity for the other spaces of the building, structured around the movement system, to be responsive as well. The exact configuration of the final building envelope however, will still depend somewhat on the nature of the spaces which attach themselves to this movement system, and these may be further adjusted in response to contextual concerns such as scale or legibility.

Corbusier's Carpenter Centre for the Visual Arts at Harvard provides a good example of a movement system used to relate a building to its site. Here an elevated ramp which cuts diagonally across the site in response to existing circulation patterns provides the central spine around which the major studio spaces of the building are organized. This response to the site's contextual forces links the building's interior and exterior spaces, and anchors the building securely in its surroundings.

If architecture is to reduce the disorientation and confusion often inherent in urban design, then it must be organized in terms of people's perceptions. Because the environment is perceived as a continuous flow of images, architecture conceived in terms of the sequential movements of people will be more responsive to their actual spatial experiences, and result in a better understanding of the built environment. Design therefore, should not be considered as the organization of space itself, but as the organization of user's spatial experiences.

PROGRAM

METRO Y.M.C.A. -- EDMONTON, ALBERTA

BACKGROUND

The YMCA is an international association of people, active in over 85 countries with over 600 million members. It is a non-profit organization, largely dependent on the efforts of volunteers and fellow members in order to offer a variety of services and programs to the general public. The Y has traditionally been oriented towards developing well rounded individuals, promoting the value of participation in group activities and physical fitness.

The YMCA has been active in downtown Edmonton for many years. Currently it maintains a nine storey brick faced building close to the centre of the downtown core. The building, originally built in 1938, has undergone several major and minor renovations over the years in order to accommodate growth and program changes. Presently the YMCA consists of a 149 bed residence for use by the general male public, a small kitchen and cafeteria, an athletic equipment sales shop, an office and administration area, and a full range of physical recreation facilities. Included in the latter are three racquetball courts, a gymnasium, complete with a suspended jogging track, an exercise room, swimming pool and of course, accompanying shower and locker rooms. Although all of the facilities have been well maintained and are still operational, the rapid growth of Edmonton's downtown population and the sudden increase in the value placed by the general public on many of the goals

stressed by the Y, have led to a rapid surge in YMCA membership applications. In order to accommodate the sudden growth, the Y has examined several possibilities for expansion.

Initial proposals for horizontal expansion were prevented by plans for the development of a huge office shopping complex on three sides of the existing facility. During the planning and feasibility studies of this complex, designated "Edmonton Centre", the Y indicated their desire to be incorporated into the facility on the basis that as a community oriented service organization, they could enhance the value of the centre to the downtown populace. The proposal was rejected, however, probably due to the obvious conflicts between the traditional image of the YMCA and that desired for the new development.

Phase I of the Edmonton Centre project was very successful, and prompted proposals for a Phase II. Again the Y expressed its interest, offering its land and building in exchange for a new facility within a two block radius of the present location. The developer did complete an economic feasibility study for a new Y, but did not include residence facilities in his proposal. The Y, however, felt obligated to continue this aspect of their service to the community. In addition, the income generated by the residence was a major source of operational funds. The offer was refused, and the Y is now literally sandwiched by the Edmonton Centre complex.

Two major options remain open to the Y in order to satisfy the present demands for increased space and to accommodate future growth:

- (1) Extensive remodeling of existing facilities with an emphasis on the vertical reorganization of spaces.

- (2) Construction of a new YMCA, complete with residence facilities within a two block radius of the existing building.

My thesis project deals with the latter--the design development of a new Metro YMCA for downtown Edmonton.

The program development for the facility has been organized into five parts:

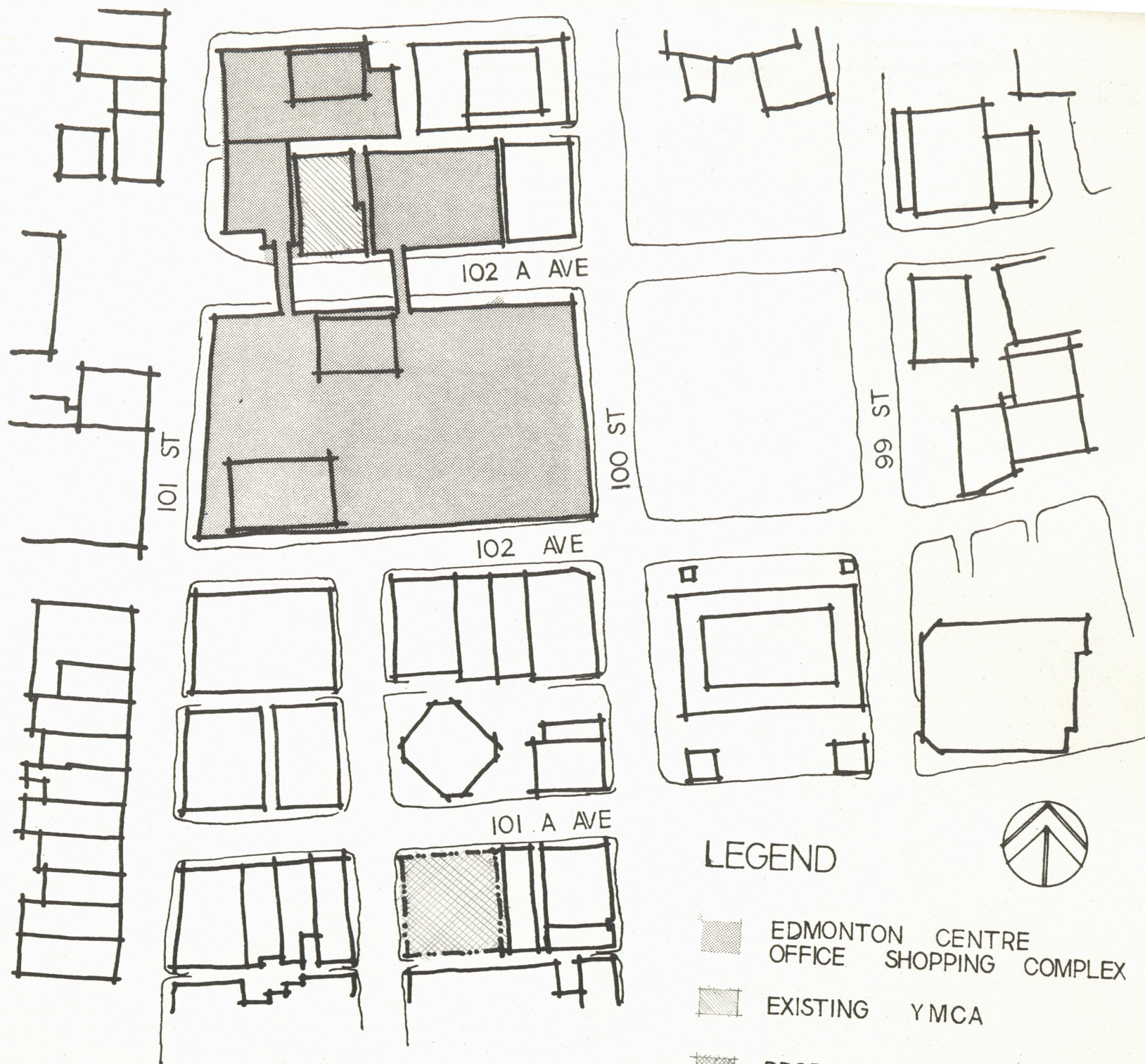
- (1) Goals
- (2) General Data and Analysis
- (3) Spatial and Functional Requirements
- (4) Concepts
- (5) Problem Statement

GOALS

There are two major types of goals that should be expressed: those pertaining to the function of the proposed facility, and those relating to the nature of its physical form.

A) FUNCTION

- (1) The building complex must effectively integrate the operations of 2 essentially independent facilities: a recreation centre, and a temporary residence for transients
- (2) The building design must allow for flexibility in the organization and use of spaces, as well as provide for future expansion
- (3) Operation and maintenance of the complete facility must be possible by a minimum of supervisory staff.



LEGEND

- EDMONTON CENTRE OFFICE SHOPPING COMPLEX
- EXISTING YMCA
- PROPOSED SITE

B) FORM

- (1) The building must express a definite sense of place within its urban context.
- (2) The relationship between the complex organization of spaces within the building and the exterior site conditions should be apparent.
- (3) Spatial relationships within the building itself must be clearly understandable to users. Their ability to orient themselves within the complex organization of spaces is of prime importance.
- (4) In keeping with the organizational theme of the YMCA, the building must express its function as a "people place."

GENERAL DATA AND ANALYSIS

A) SITE ANALYSIS

In keeping with the YMCA's previously stated desire to relocate within a two block radius of their existing building, I am proposing that the new facility be situated on the northwest corner of 101 A Avenue and 100 A Street, as shown in red on the accompanying map. The new facility is centrally located with respect to most major office complexes, the primary source of users for the Y's recreational components. In addition, for the convenience of transients using the residence facilities, it is within short walking distances to all major transportation terminals, including the Greyhound Bus Depot, the Canadian National Railways Station, and the International Airport Bus Stop. Major city bus routes converge in the area, and the main station of the new underground Light Rail Transit system is less than one block away.

Currently the site is occupied by a five storey parkade. A recently published report by the City of Edmonton Planning Department, however, has revealed plans for the development of a pedestrian mall in this area. The automobile traffic to and from the parkade would be inconsistent with the goals of the pedestrian mall and would, therefore, suggest the redevelopment of the site in question. Since the YMCA would require only minimal vehicular access for handicap users or deliveries, it would be ideally suited for this site.

The site is bordered on the west by 100 A Street, the major axis of the proposed pedestrian mall; on the north by the 101 A Avenue, the minor axis of the mall; on the south by an access lane, and by the 3 storey Weber Brothers Realty office on the east. High rise office buildings south and east of the site block any potential views of the river valley even from 20 stories above grade. Views to the north and west are possible from elevations of five stories above grade, but the aesthetic appeal of these views is low.

Streets leading to the site are best described as canyons. The majority of the surrounding buildings have been built flush to the property lines and rise straight up. Street level views are thus restricted to those defined by the facades lining the streets. The primary visual focal points in the area are the Edmonton Centre Office Towers, the Phipps McKinnin Building, and the Edmonton Plaza Hotel; their chief distinction stemming from their height.

Sound levels in the site vicinity are quite reasonable at the present time, but would undoubtedly improve even more with the elimination of automobile traffic as proposed by the city.

The local climatic conditions are relatively stable, although a large daily temperature range is not uncommon. In general, Edmonton experiences hot dry summers and cold winters. The length of daylight time varies from maximums of 16 hours in the summer to 8 hours in the winter. Skies are generally clear during all seasons. The micro climate of the downtown core is affected by a variety of factors common to most urban areas. Winds amplified by high rise office towers are common, generally blowing from the NNW during the winter. Little or no direct sun reaches the ground plane due to the density of high rise construction in the downtown area. Air quality has deteriorated noticeably in recent years and smog or haze can be seen floating over the city on most working days, especially during rush hours. With the exception of a few potted trees, little vegetation exists anywhere downtown. The river valley, which has been largely preserved in its natural green state has unfortunately been screened from most downtown areas by a solid wall of high rise buildings lining the north bank.

B) USER CHARACTERISTICS

Use of the YMCA will be split between two groups: those who will be staying temporarily in its residence, and those who will frequent its recreational facilities.

The residence will normally be occupied by transient males, 16 years of age and older. Their length of stay will be generally less than one week, although the present Y does have a few semi-permanent guests. Vandalism is expected to be very common and must be anticipated in design proposals for any portion of the residence facilities.

The recreational components of the Y will be open to use by guests staying in the residence, however, the primary users of these facilities are expected to be downtown businessmen and women who wish to exercise or participate in some sort of group activity before and after work, or during their lunch break. Present conditions indicate a higher level of usage of the existing facilities by males than females, however, the growth rate of female memberships has increased annually. Some use of the facilities is also expected by young children who find the Y's central location convenient due to the access afforded by the public transit system.

The attitude of these types of users towards the YMCA facilities has in the past been very positive. Generally they are responsible and demonstrate considerable respect for the equipment and facilities.

Since membership is primarily on an individual basis, the use of the Y by outside clubs or groups will be restricted to periods when the facilities are not designated for use by Y members only. Guests or non-members will be allowed only on a fee basis. The proposed building must make allowances for the use of the facilities by handicapped users.

C) STAFFING REQUIREMENTS

Staffing requirements are expected to be fulfilled by a network of full-time personnel, backed up by a variety of part-time assistants, volunteers and fellow members.

Full-time positions include:

- (1) Unit Supervisor
- (2) Programs Director
- (3) Men's Club Director
- (4) Women's Club Director
- (5) Residence Director
- (6) 3 Residence Security/Desk Clerks (24 hr. operation)
- (7) Memberships Secretary
- (8) General Secretary
- (9) Building maintenance Staff Supervisor

Other positions will be filled by part-time or volunteer staff as specific programs develop and needs become apparent. These include:

- (1) Lifeguards
- (2) Fitness Instructors
- (3) Program Instructors
- (4) Towel Room Attendants
- (5) Pro Shop Sales Attendant
- (6) Kitchen and Cafeteria Staff
- (7) Maintenance/Housekeeping Staff
- (8) Part-time Secretaries

SPATIAL & FUNCTIONAL REQUIREMENTS

SPACE	AREA (FT ²)	NOTES
<u>PUBLIC</u>		
A) Lobby		
1) Entry	200	Directory; Notice boards; informal seating; Telephones; Reception Desk
2) Lounge	1,000	
3) Men's Restroom	120	
4) Women's Restroom	120	
	<u>1,440</u>	
B) Reception Desk		
1) Counter	60	Reservations; switchboard; mail; cash; information
2) Switchboard	20	
3) Work Area	70	
	<u>150</u>	
C) Sales Area		
1) Counter	20	Sale and service of goods applicable to YMCA programs and facilities
2) Display	80	
3) Storage	100	
4) Service/Repair	100	
	<u>300</u>	

SPACE	AREA (FT ²)	NOTES
<u>ADMINISTRATIVE</u>		
A) Unit Supervisor's Office	100	
B) Programs Director	100	
C) Men's Fitness Director	80	
D) Women's Fitness Director	80	
E) Residence Director	100	
F) Maintenance Supervisor	80	
G) Secretary & General Files	200	
H) Meeting/Conference Room	200	
I) Storage & Duplicating Room	100	
J) Reception Counter	60	
K) Staff Facilities/Lounge	200	
	<u>1,300</u>	
<u>PHYSICAL RECREATION DEPARTMENT</u>		
A) Men's Health Club		
1) Entry	50	
2) Locker/Change Area	1,500	500 Lineal Ft. of lockers (400 members) TV; Lounge Furniture;
3) Lounge	500	
4) Towel Exchange	100	
5) Nap Room	80	
6) Massage	400	
7) Shower Area	150	Direct access to swimming pool from shower areas
8) Drying Area	200	
9) Sauna	100	

SPACE	AREA (FT ²)	NOTES
10) Whirlpool	125	Light Weights
11) Exercise Area	450	
12) Toilets		
a) Wet Area	80	
b) Dry Area	160	
13) General Storage	100	
	<u>3,995</u>	
B) Men's Club		
1) Entry	50	625 Lineal Ft. of Locker (1000 members)
2) Locker/Change Area	1,900	
3) Towel Exchange	100	
4) Shower Area	200	
5) Drying Area	250	
6) Toilets		
a) Wet Area	80	
b) Dry Area	160	
7) General Storage	50	
	<u>2,790</u>	
C) Ladies' Club		
1) Entry	50	500 Lineal Ft. of Lockers (400 members)
2) Locker/Change Area	1,500	
3) Lounge	300	2 private showers; Group Shower
4) Towel Exchange	100	
5) Shower Area	200	
6) Drying Area	200	
7) Sauna	100	

SPACE	AREA (FT ²)	NOTES
8) Whirlpool	125	
9) Exercise Area	450	
10) Toilets		
a) Wet Area	80	
b) Dry Area	160	
11) General Storage	100	
	<u>3,365</u>	
 D) Gymnasium		
1) General Activity Area	6,000	60' x 100' space for basketball, volleyball, badminton, general exercise, gymnastics, dancing 20 ft. ceiling
2) Spectator Area	500	
3) Supervisor's Office	100	
4) General Storage	300	
	<u>6,900</u>	
 E) Swimming Pool		
1) 25 x 25 M. Tank	5,500	Lane Swimming; general recreation One & Two meter boards; 16 Ft. Deep end, Access to exterior
2) 25 x 25 Diving Tank	2,000	
3) Filter Room	200	
4) Spectators	300	
5) Aquatics Office	100	
6) Storage	100	
	<u>8,200</u>	
 F) Handball/Racquetball Courts		
1) Courts (4)	3,200	20' x 40' x 23'
2) Spectators	320	
	<u>3,520</u>	

SPACE	AREA (FT ²)	NOTES
G) Exercise/Weight Room		
1) Nautilus	400	
2) Standard Weights Area	400	
3) Mat Area	200	
	<u>1,000</u>	
H) Combat Sports Room		
1) Mat Area	1,000	
2) Storage	200	
3) Supervisors Office	100	First Aid station
	<u>1,300</u>	
I) Jogging Track		
1) Warm up/Stretch Area	200	
2) Track	3,000	Estimated 300 Lineal Ft. x 10 ft
	<u>3,200</u>	wide

RESIDENCE

A) Residence Rooms		
1) Single Accommodation 80 @ 100 sq. ft. ea.	8,000	Accommodations for up to 200 male
2) Double Accommodation 60 @ 140 sq. ft. ea.	8,400	transients
	<u>16,400</u>	

SPACE	AREA (FT ²)	NOTES
B) Residence Lounge		
1) T.V. Viewing Area	300	
2) Reading/Conversation Area	150	
3) Vending Machines	50	
	<u>500</u>	
C) Residence Washrooms		
1) Lavatories (6)	60 ft ²	One washroom per 20 beds.
2) Urinals (3)	30 ft ²	
3) Toilets (3)	40 ft ²	
4) Showers (3)	75 ft ²	
5) Garbage/Storage	45 ft ²	
	<u>250 ft²</u>	
10 washrooms @ 250 ft ² ea.	<u>2,500</u>	
<u>GENERAL SERVICES</u>		
A) Kitchen		
1) Food Preparation	800	
2) Food Storage	300	
3) Garbage	100	
4) Delivery Area	150	Exterior Access Toilet facility
5) Staff facilities	150	
	<u>1,500</u>	

SPACE	AREA (FT ²)	NOTES
B) Cafeteria		
1) Seating for 75 persons @ 15 ft ² /person	1,100	
2) Buffet - Serving	250	
3) Entry	150	
	<u>1,500</u>	
C) Laundry		
1) Washers & Dryers	600	
2) Pressing	200	
3) Folding Tables	100	
4) Storage	150	
	<u>1,050</u>	Clean & soiled laundry storage
D) Housekeeper Facilities		
1) Janitor Supplies/Storage 4 @ 75 ft ² ea.	300	Distributed throughout building
2) Staff Locker Room	600	
3) Delivery	100	
	<u>1,000</u>	
E) Service Department		
1) Shop Area	400	
2) Storage	200	
	<u>600</u>	
F) Electrical Room		
1) Meter Room	100	
	<u>100</u>	

SPACE	AREA (FT ²)	NOTES
G) Telephone Room		
1) Main Circuits Room	100 100	
H) Mechanical Room		
1) Heating and Cooling Plant	5,000	
<u>NET BUILDING AREA</u>	68,000	
<u>PLANNING FACTOR:</u> 30%	20,400	
Walls, Corridors, Stairs Ducts, etc.		
<u>ESTIMATED TOTAL AREA:</u>	88,400	
<u>TOTAL SITE AREA</u>	22,500	
<u>BUILDING SITE RATIO</u>	3.9/1	
<u>PARKING</u>		
Visitors/Staff (8)	12 stalls	
Handicapped Members (2)		
Deliveries (2)		

CONCEPTS

The general concepts for the development of the YMCA complex can be separated into two major types: those pertaining to the buildings function, and those pertaining to its form.

A) FUNCTION

- (1) Consider the residential and recreational facilities as 2 distinct components - related together in terms of their access.
- (2) Structure the variety of facilities around a simple movement system that will allow for flexibility in the design of individual facilities, and establish a pattern for future growth.
- (3) Centralize service facilities within the building as much as possible.

B) FORM

- (1) Emphasize the approach procession and entrance into the building in order to reinforce its sense of place and its relationship to the urban context.
- (2) Organize the user's spatial experiences in terms of his sequential movements. Develop a movement system that stimulates the perception of order and orientation of the users.
- (3) Structure the arrangement of facilities so as to make people a highly visible part of the building. When appropriate, "display" YMCA activities.

PROBLEM STATEMENT

Apart from the resolution of the purely functional requirements of the building, the problem is two-fold.

- (1) Determining the building's relationship to the city in order that it can contribute to people's orientation within the city. In other words, how to give the building a definite sense of place within the city.
- (2) Structuring the user's spatial experiences of the building itself, determining their orientation within it, and insuring their understanding of the complex organization of spaces.

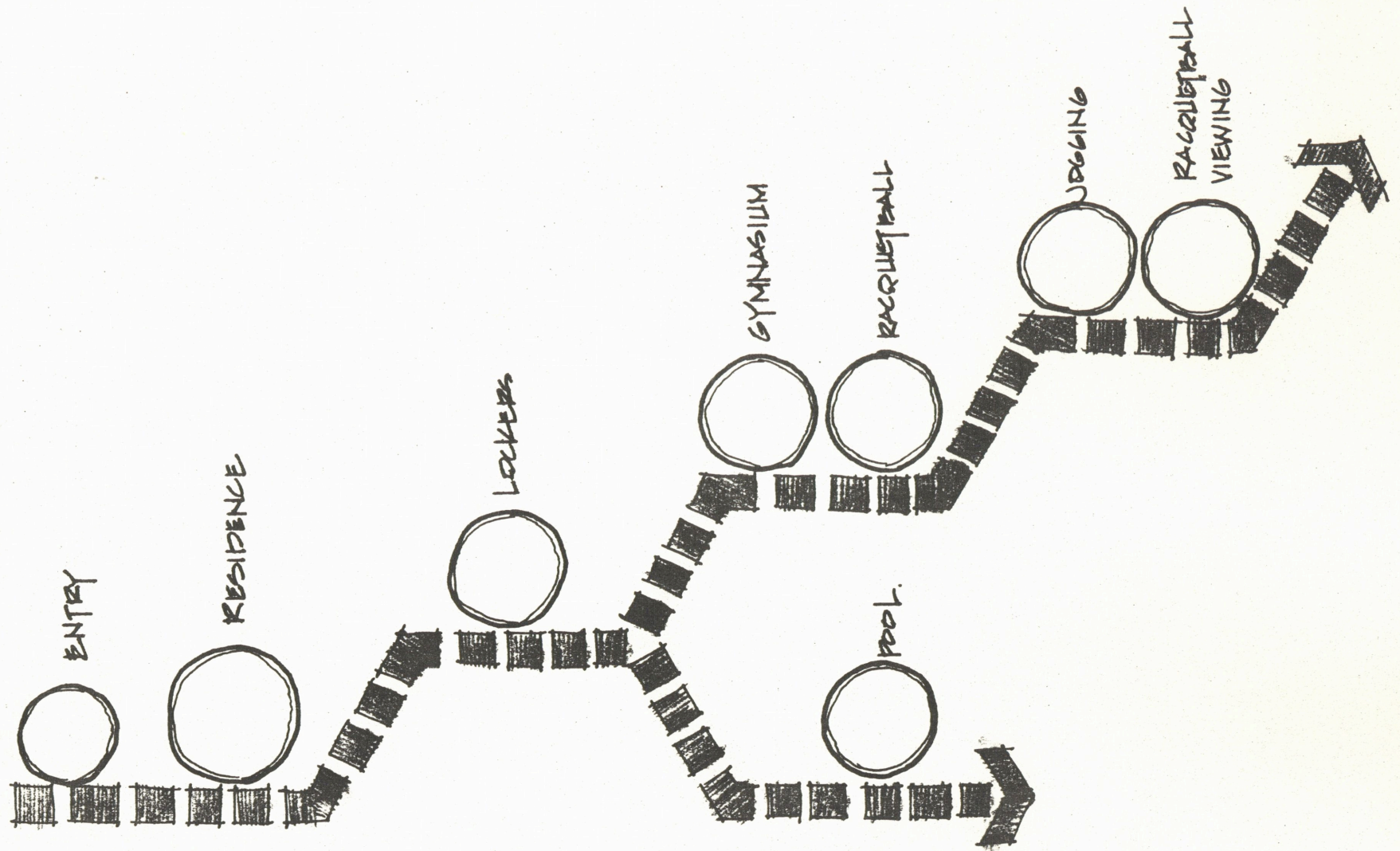
I believe that both aspects of the problem can be resolved through an understanding of movement systems as an ordering and linking device, responsible for determining user's perceptions.

DESIGN DEVELOPMENT

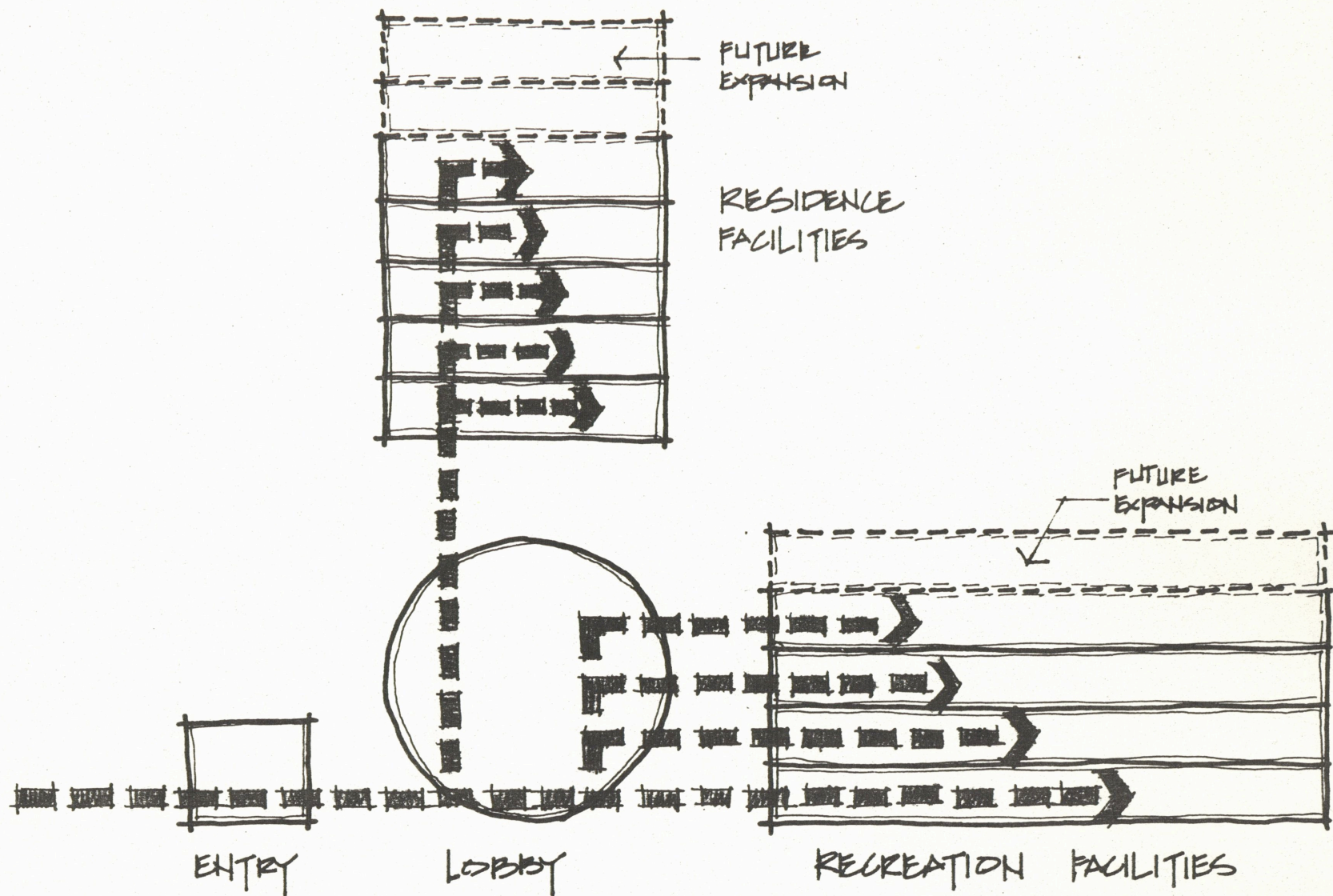
It is not my intent to present a detailed verbal tour of the entire Y.M.C.A. design proposal. Rather, I shall try to emphasize portions of the design process which relate directly to my thesis ideas.

In keeping with my previously expressed concepts regarding movement as an orientation and linkage device in complex environments, my initial schematic designs were concerned with establishing a clear and sequential relationship between the variety of spaces within the facility. In addition, limitations imposed by the relatively small site area suggested the development of a multi-level scheme as shown in Figure 1. Further development of these ideas led to a more specific schematic section, shown as Figure 2. Utilizing a large open lobby space as a central point of reference, the recreational spaces were located horizontally adjacent, while the residence areas were grouped vertically above the lobby.

One of the major advantages of this schematic arrangement was that it insured the functional autonomy of each major component, previously expressed as desirable in the program. In addition, it provided the means for separating the flow of user traffic into two distinct groups, yet access to any portion of the building could still be controlled by means of a simple check point situated in the lobby. Also important was the scheme's potential for accommodating future expansion possibilities. Since the proposed building site was relatively constricted, and the possibilities for horizontal growth at a later date were somewhat questionable, vertical expansion possibilities were of major concern. As shown in Figure 2, this



SPATIAL
SEQUENCE

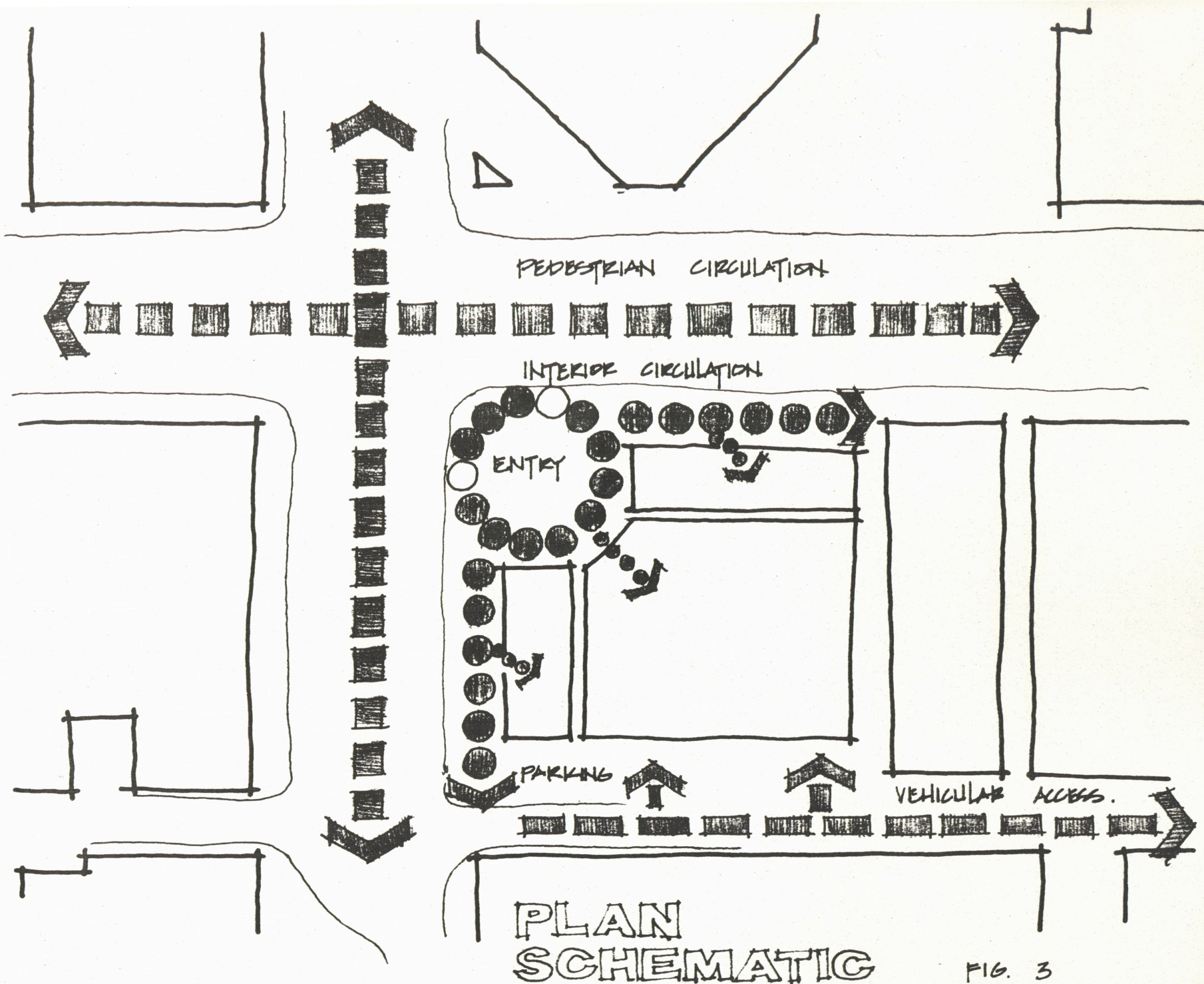


SCHEMATIC
SECTION

FIG. 2.

schematic arrangement would allow the vertical growth of either major component with little or no reorganization of the initial building. Another advantage of this schematic proposal was that the large open lobby space would help make the organization of spaces clearly apparent to users immediately upon entry. Although the lobby would not provide an all encompassing view of each space with everything recognizable and understandable, it would focus the entrant's attention on the movement system and stimulate his awareness of it as the primary thread which weaves the building together.

By modifying these schematic relationships in response to the specific site conditions the continuity between the building and its context was further developed. As shown in Figure 3, the movement system on the lower floors was pulled to the edges of the site adjacent to the street. By treating these circulation paths as "transparent screens", visual relationships between the exterior site conditions and the interior activity spaces would be established. Smaller, general public oriented spaces such as the cafeteria were zoned adjacent to the circulation areas, and accommodate structural supports for the residence facility above. The large gymnasium and pool spaces are grouped in the central area of the site while the parking and loading bays are positioned adjacent to the existing service lane at the rear. The major entries to the building are near the corner, where they would be clearly visible from any direction of approach. Earlier schemes showing the entrance directly on the corner were rejected since the building would rarely be approached on a 45° angle and the impact and clarity of such an entry would be reduced when approached from any other direction.



In the development of these conceptual schemes into a more definite design proposal, the expression of a distinct and separate identity for the movement system was of prime importance. Since the movement system was largely coincident with the structural system of both the residence and the recreation facility, it was considered the only really "fixed" part of the building. The other spaces, ranging from individual dormitory rooms to the gymnasiums, were therefore left quite flexible in terms of their actual form or function. This flexibility was a necessary requirement for the entire facility in order that it would be able to accommodate the variety of programs and activities by the Y.

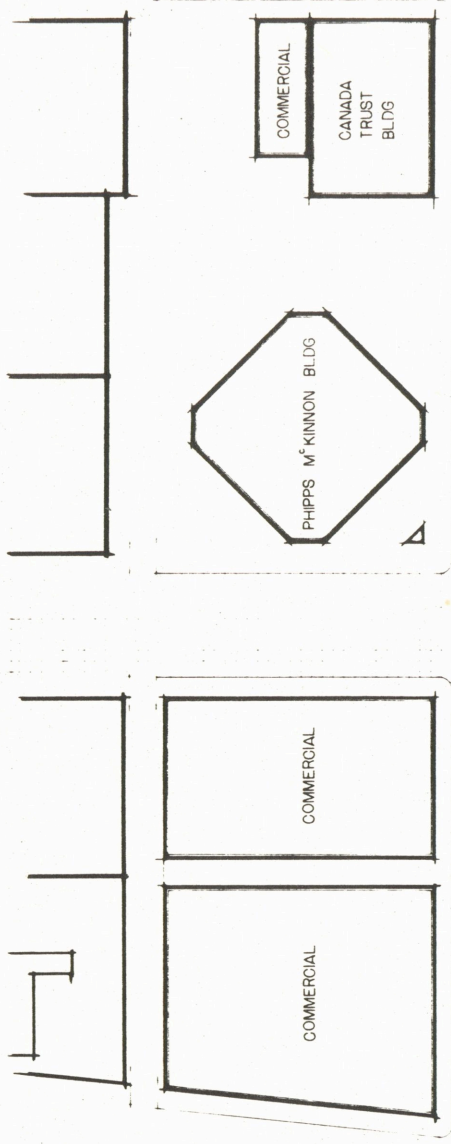
The permanence that would become associated with the movement system would also serve to establish it as a continuous reference point for users in their perception of the other building spaces. Perceived as a connection between distinguishable places, the movement system would further enhance user's orientation by making their path or procession through the building easily charted and remembered. For example, the elevators which connect the residence portion of the building to the lobby space have been pulled out and expressed on the exterior. The intended effect was that people approaching the building from virtually any direction would be able to anticipate their movements inside the building well in advance of actually entering it.

The residence portion of the facility, situated several storeys above the street level could not effectively express its horizontal movement in any means similar to that of the lower floors. Instead, each floor of the residence was considered as a central permanent core (i.e. the hallway) with individual rooms treated

as "capsules", and clipped on at regular intervals. By leaving some space, however small, between the rooms facing the street, natural light and brief views to the exterior would reduce the monotony of the double loaded corridor, and enhance user's orientation within a potentially introverted space.

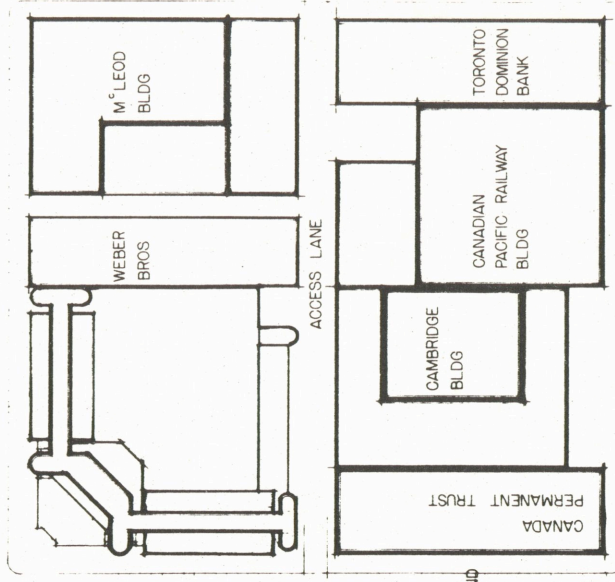
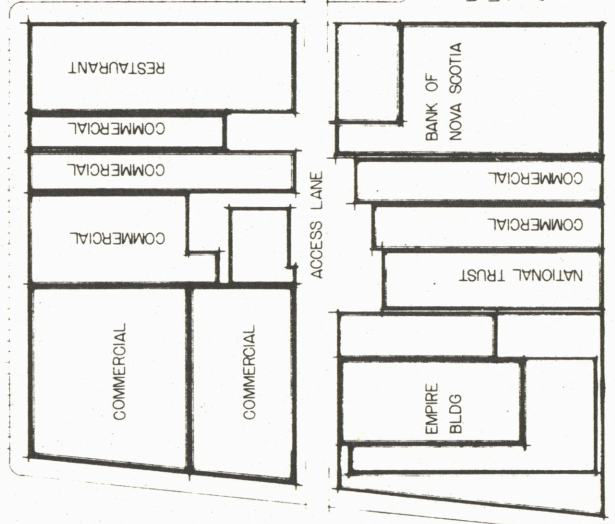
The drawings which follow will hopefully illustrate these and many other applications of my thesis concepts in the design process of the YMCA.

PROJECT DRAWINGS

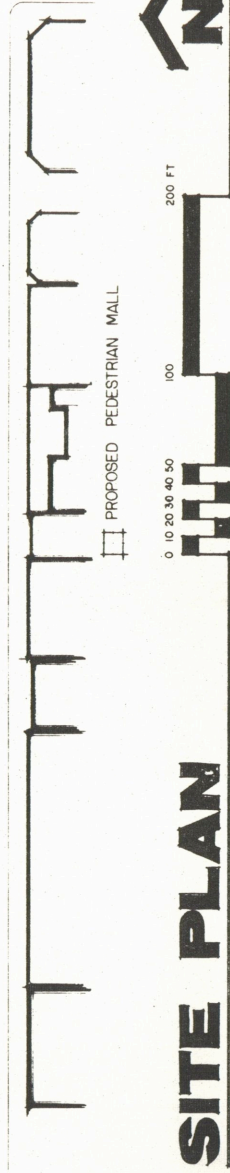


101 A AVE

100 A STREET

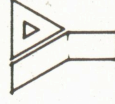


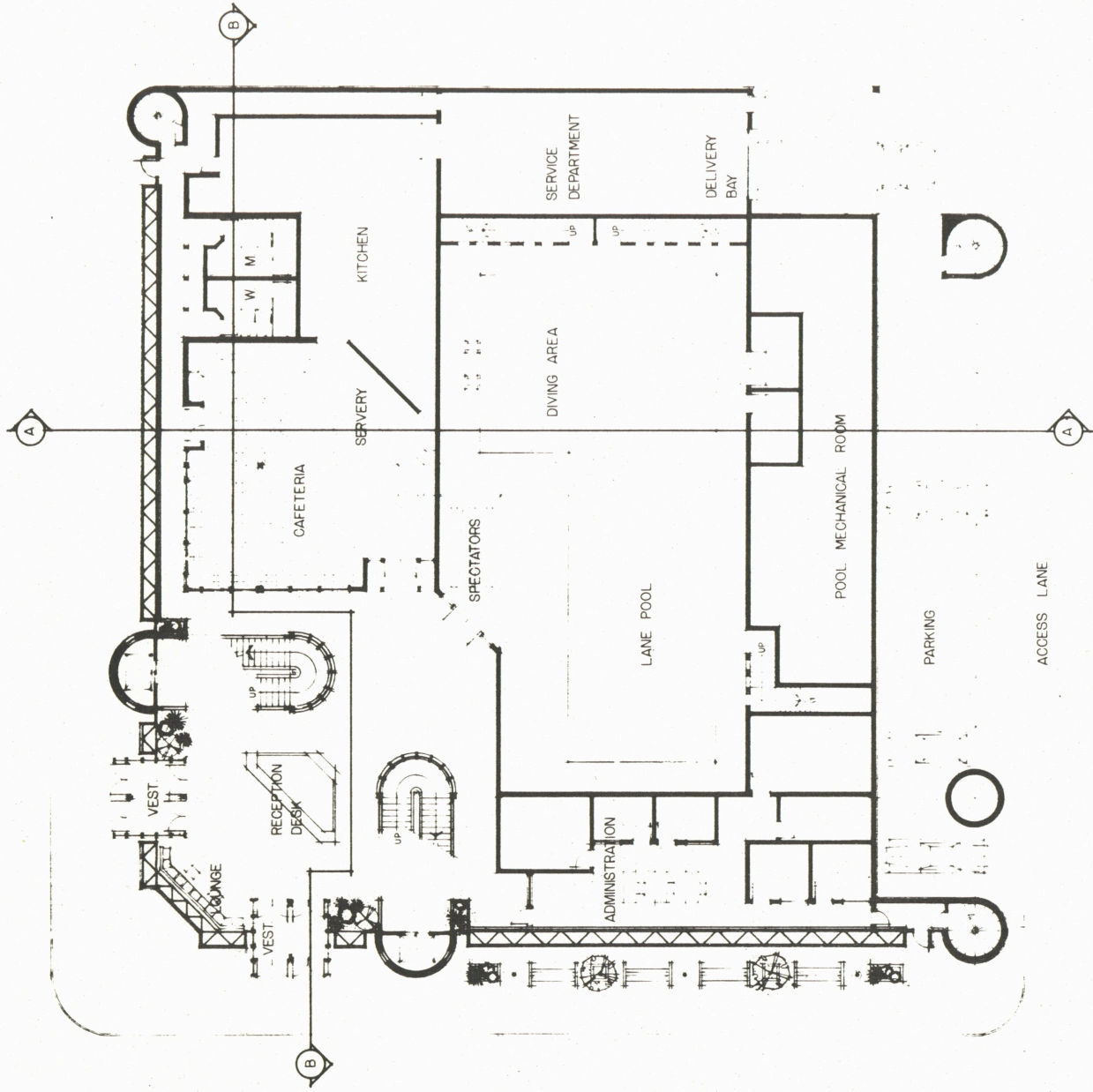
JASPER AVE



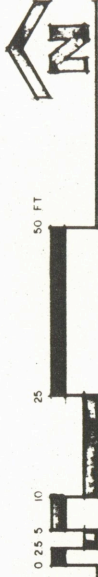
SITE PLAN

METRO Y M C A
EDMONTON ALBERTA

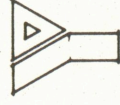


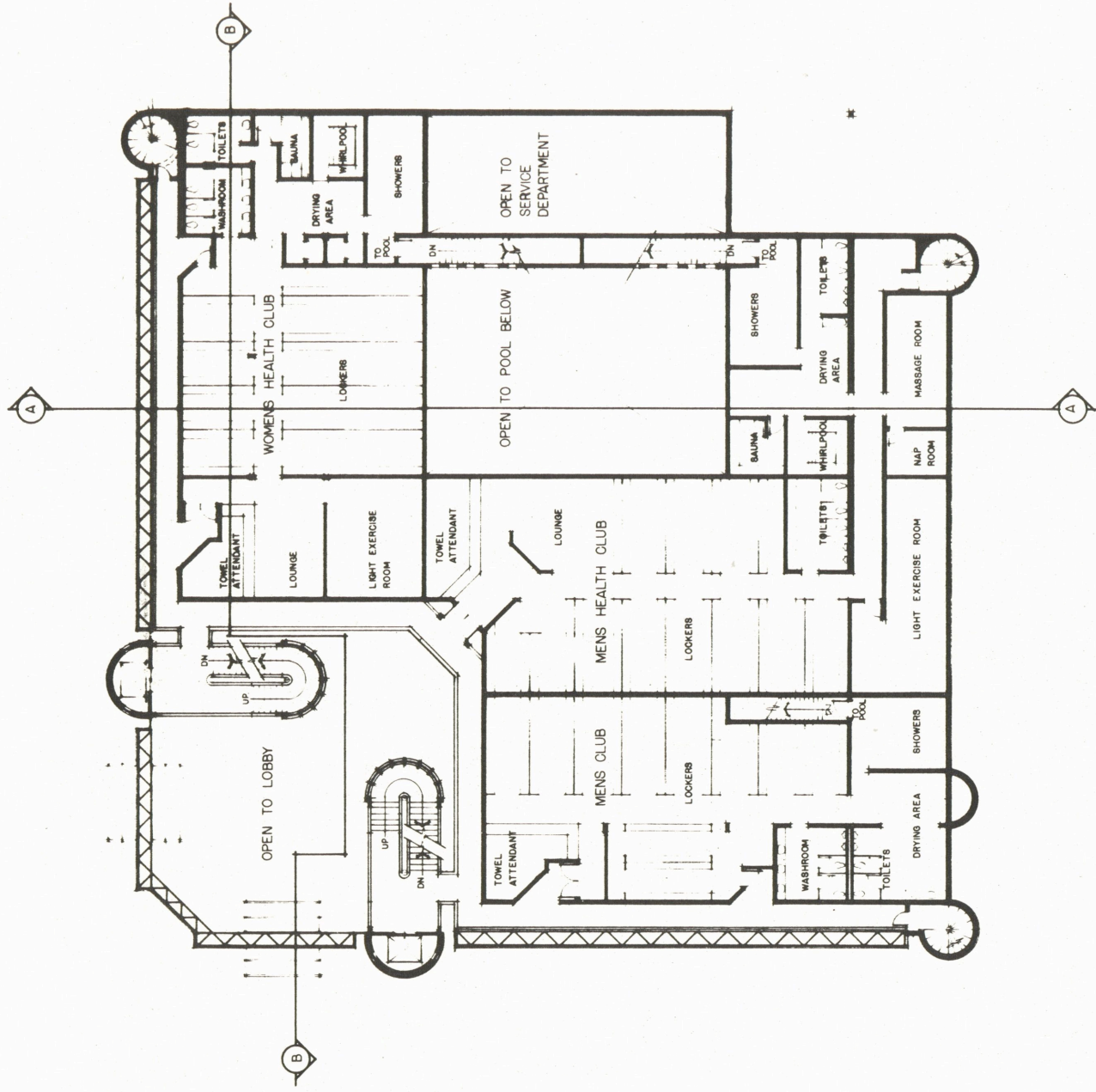


FIRST FLOOR

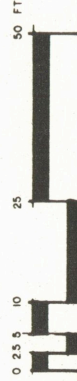


METRO YMCA
EDMONTON ALBERTA

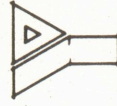


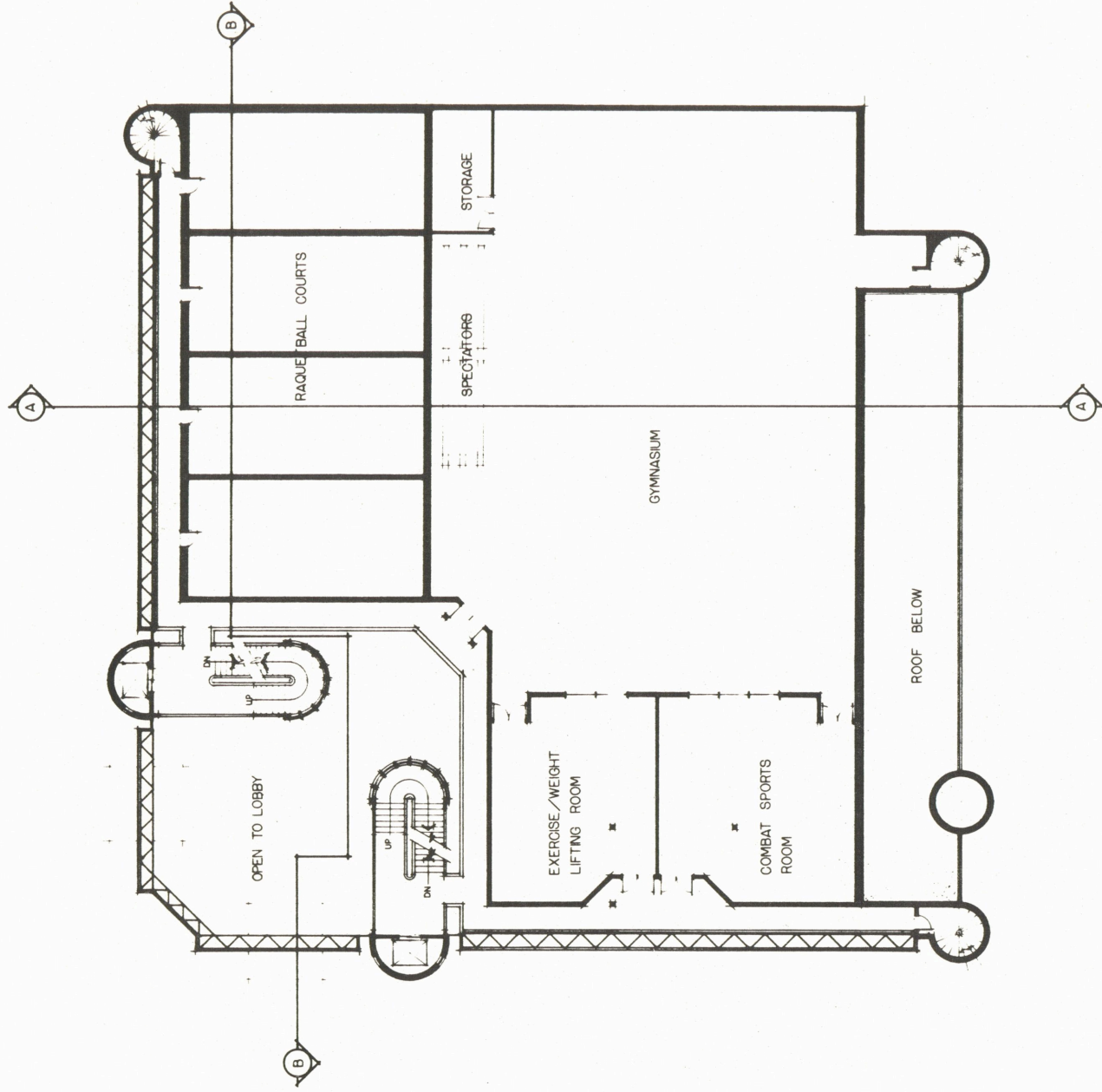


SECOND FLOOR



METRO YMCA
EDMONTON ALBERTA





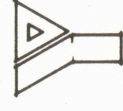
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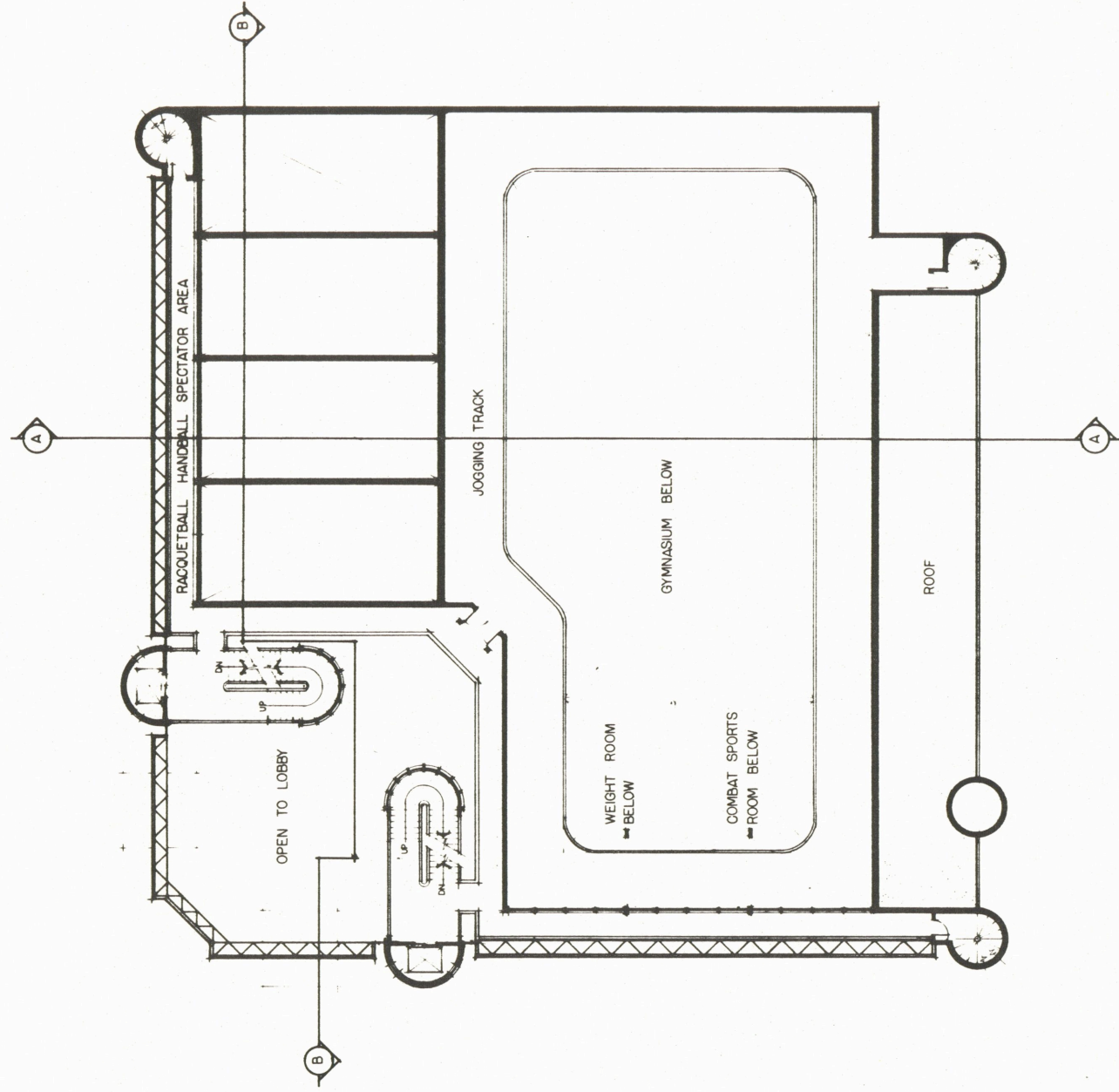
25

0 2.5 5 10

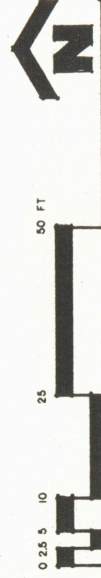
THIRD FLOOR

**METRO YMCA
EDMONTON ALBERTA**

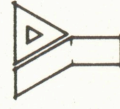


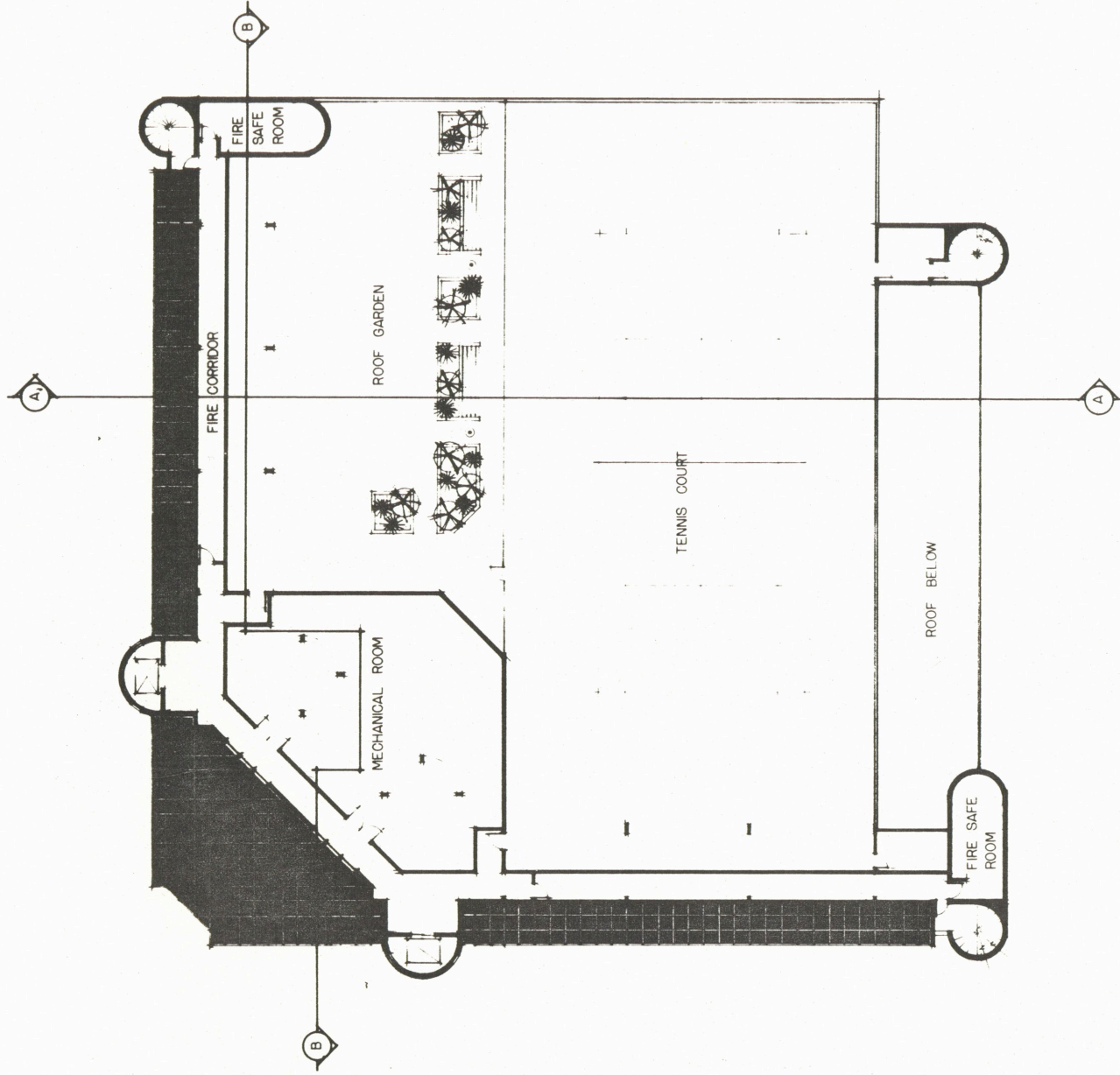


FOURTH FLOOR



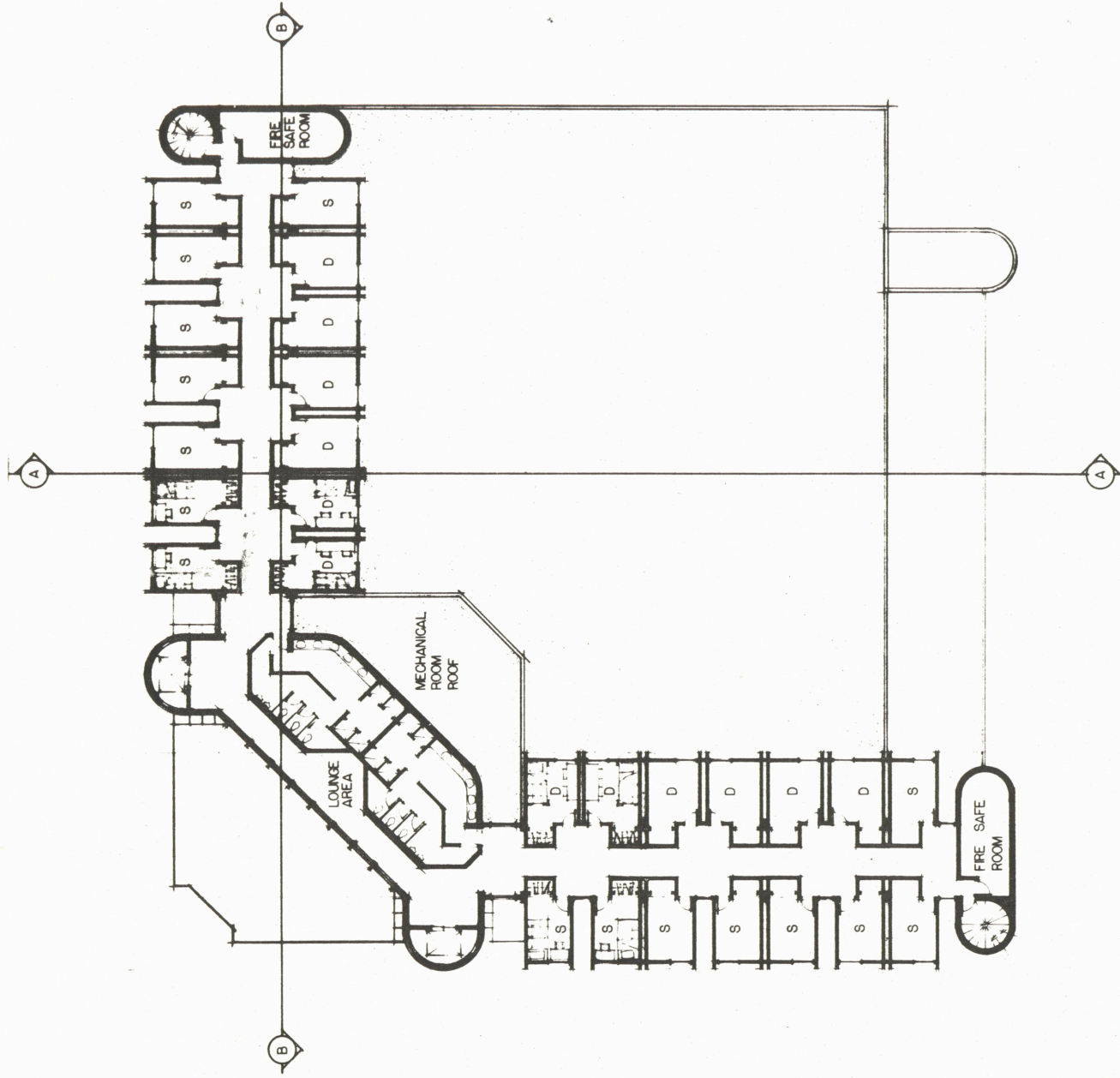
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EDMONTON ALBERTA**





FIFTH FLOOR  0 2.5 5 10 25 50 FT

METRO YMC A
EDMONTON ALBERTA

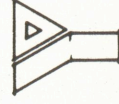


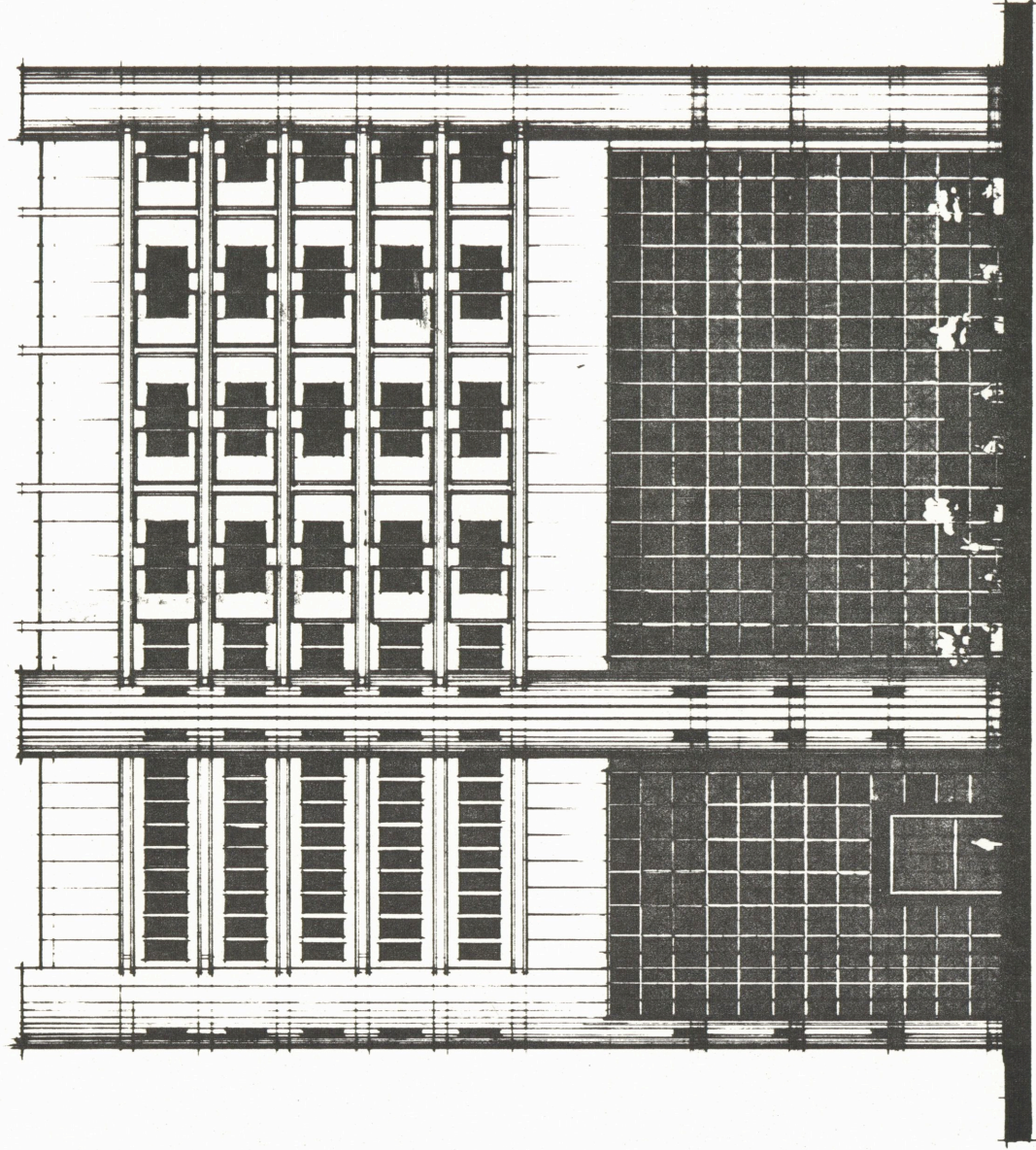
SINGLE ROOM - S
DOUBLE ROOM - D

DORMITORY FLOOR TYPICAL



**MIETRO YMCA
EDMONTON ALBERTA**

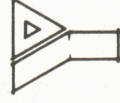


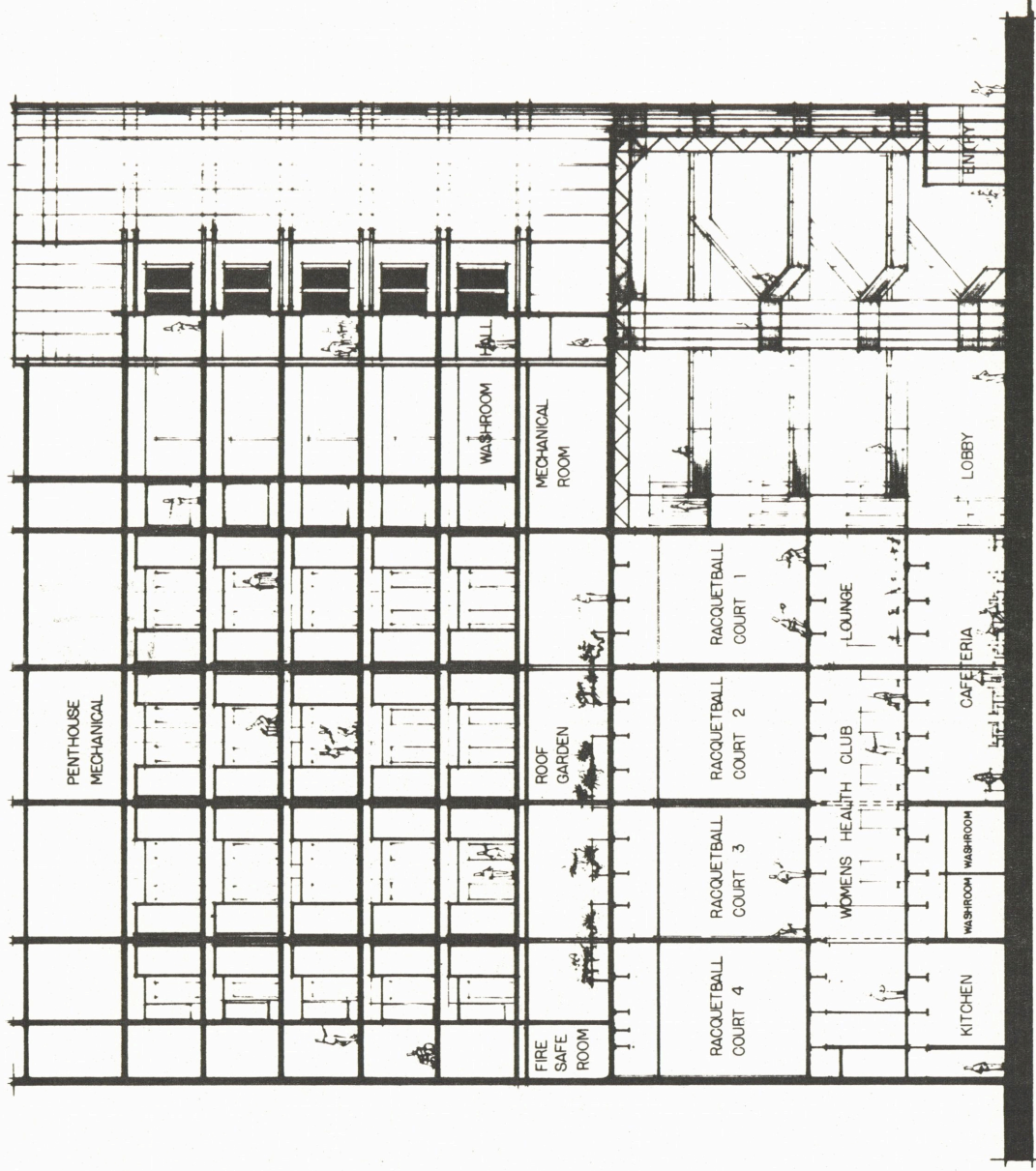


**WEST
ELEVATION**



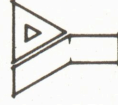
**METRO YMCA
EDMONTON ALBERTA**

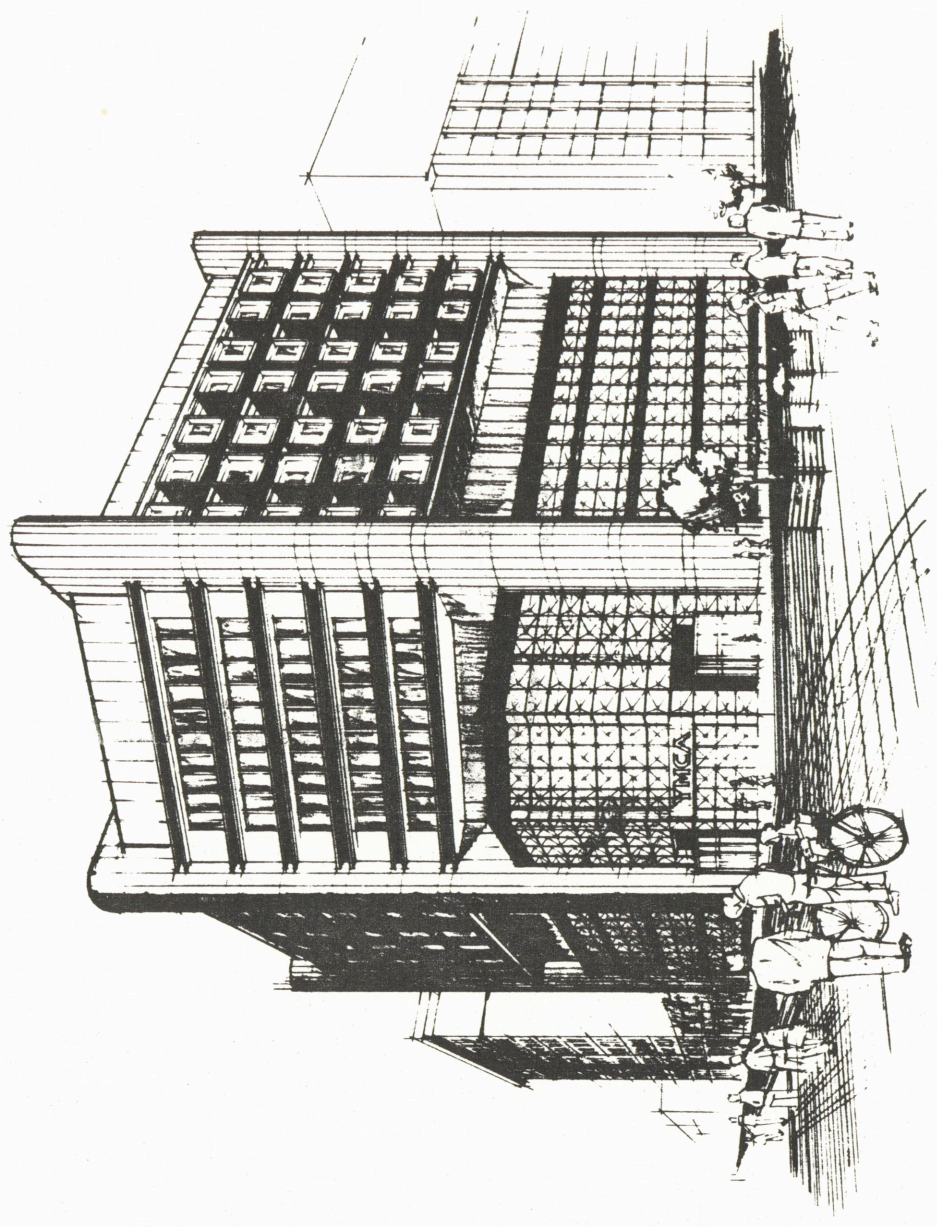




SECTION B-B 0 2.5 5 10 25 50 FT

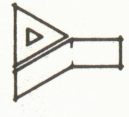
METRO Y M C A
EDMONTON ALBERTA

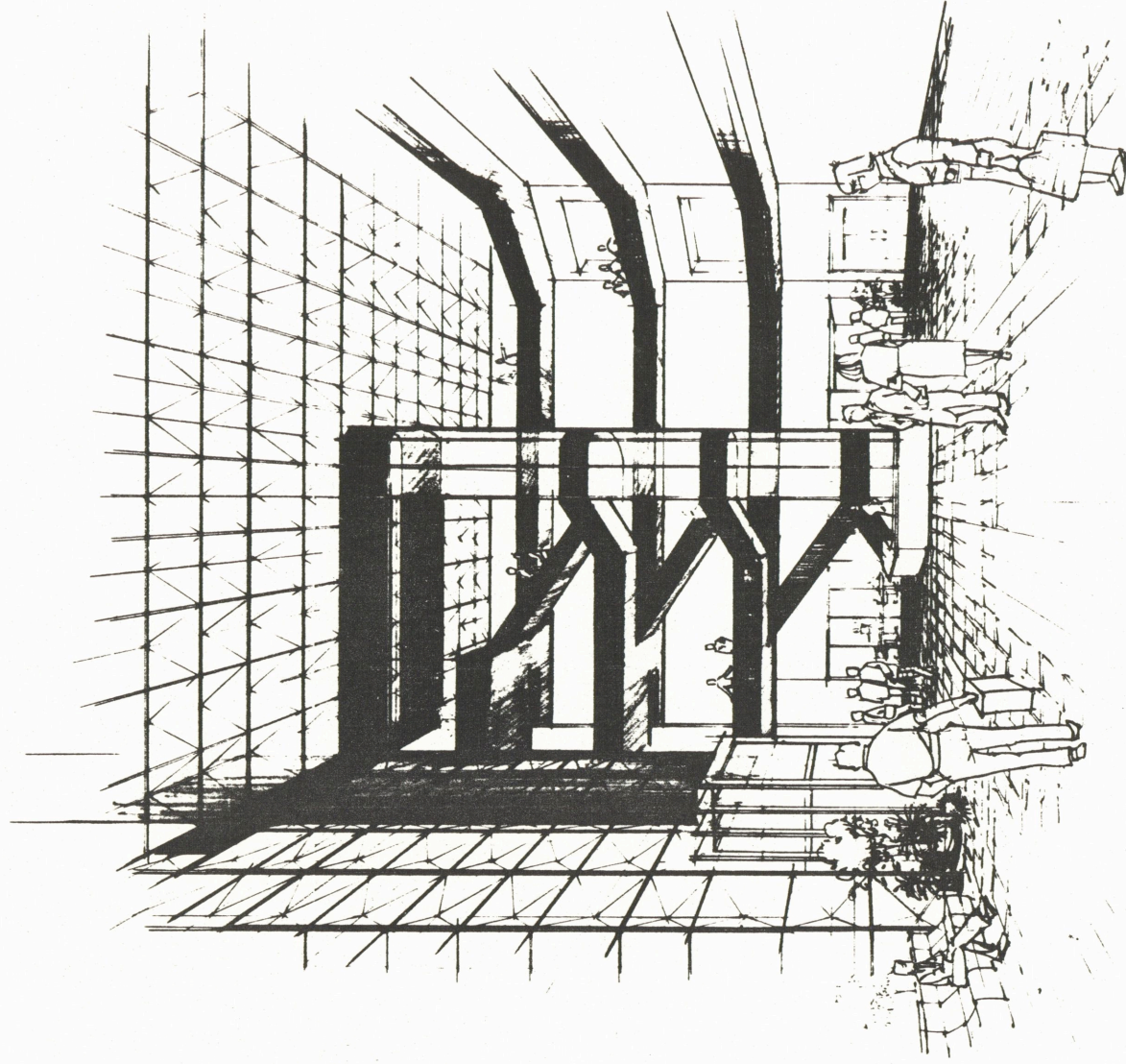




VIEW FROM MALL

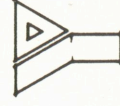
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LOBBY

MIETRO YMCA
EDMONTON ALBERTA



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